Notice of Allowability	Application No.	Applicant(s)	
	09/977,193	PERSSON, JONAS	
	Examiner	Art Unit	
	Lawrence B. Williams	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *RCE filed on 21 November 2005*.

2. ☒ The allowed claim(s) is/are *4-5, 9-10, 13, 16, 19-20, 22, and 24-28, renumbered as 1-14, respectively*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date 2.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance: The instant application discloses a method and apparatus for adjusting a radio frequency signal. A search of the prior art has failed to disclose a method comprising; " delaying the generated phase signal by a first time delay amount to produce a delayed phase signal, the first time delay amount being such as to minimize a difference between the delayed phase signal and the detected phase signal; delaying the generated amplitude signal by a second time delay amount to produce a delayed amplitude signal, the second time delay amount being such as to minimize the difference between the delayed amplitude signal and the detected amplitude signal; using the first and second time delay amounts to determine a third time delay amount and a fourth time delay amount; and adjusting the generated phase signal in dependence upon the third time delay amount to produce the adjusted phase signal and adjusting the generated amplitude signal in dependence upon the fourth time delay amount to produce the adjusted amplitude signal, wherein the third and fourth time delay amounts together are such as to compensate for a time delay between the detected phase and detected amplitude signals" or " detecting an RF signal to produce detected inphase and quadrature (I and Q) signals; delaying the generated inphase (I) signal by a first time delay amount to produce a delayed phase signal, the first time delay amount being such as to minimize a difference between the delayed inphase signal (I) and the detected inphase (I) signal; delaying the generated quadrature (Q) signal by a second time delay amount to produce a delayed quadrature (Q) signal, the second time delay amount being such as to minimize the difference between the delayed quadrature (Q) signal and the detected quadrature (Q) signal; using the first and second time delay amounts to determine a third time delay amount

and a fourth time delay amount; and adjusting the generated inphase (I) signal in dependence upon the third time delay amount to produce the adjusted inphase (I) signal and adjusting the generated quadrature (Q) signal in dependence upon the fourth time delay amount to produce the adjusted quadrature (Q) signal, wherein the third and fourth time delay amounts together are such as to compensate for a time delay between the detected inphase (I) and detected quadrature (Q) signals" as disclosed in claims 4 and 9, respectively.

Nor does the prior art teach an apparatus comprising; "an adjustment unit connected to receive generated phase and amplitude signals operable to output an adjusted phase signal in dependence upon a received first adjustment control signal: and output an adjusted amplitude signal in dependence upon a received second adjustment control signal; a delay unit connected to receive the generated phase and amplitude signals and operable to delay those signals by respective first and second time delays to produce delayed phase and amplitude signals, the first time delay being determined such that differences between detected and delayed phase signals are minimized, and the second time delay being determined such that differences between detected and delayed amplitude signals are minimized; and a delay calculation unit which is operable to generate the first and second adjustment control signals in dependence upon the first and second time delays and to supply the first and second adjustment control signals to the adjustment unit, wherein the first and second adjustment control signals together are such as to cause the adjustment unit to compensate for a time delay between the detected phase and detected amplitude signals" or " an adjustment unit connected to receive generated inphase and quadrature (I and Q) signals operable to output an adjusted inphase (I) signal in dependence upon a received first adjustment control signal: and output an adjusted quadrature (Q) signal in

dependence upon a received second adjustment control signal; a delay unit connected to receive the generated inphase and quadrature (I and Q) signals and operable to delay those signals by respective first and second time delays to produce delayed inphase and quadrature (I and Q) signals, the first time delay being determined such that differences between detected and delayed inphase (I) signals are minimized, and the second time delay being determined such that differences between detected and delayed quadrature (Q) signals are minimized; and a delay calculation unit which is operable to generate the first and second adjustment control signals in dependence upon the first and second time delays and to supply the first and second adjustment control signals to the adjustment unit, wherein the first and second adjustment control signals together are such as to cause the adjustment unit to compensate for a time delay between the detected inphase (I) and detected quadrature (Q) signals" as disclosed in claims 13 and 16, respectively.

The prior art also fails to teach a method of adjusting timing of phase and amplitude components in an output Radio Frequency (RF) signal, comprising; "generating a third delay amount based on a comparison between the first and second delay amounts; generating a fourth delay amount based on a comparison between the first and second delay amounts; generating phase and amplitude signals from input data; delaying the generated phase signal by the third delay amount to produce a delayed phase signal; delaying the generated amplitude signal by the fourth delay amount to produce a delayed amplitude signal; and supplying the delayed phase signal and the delayed amplitude signal to the RF circuitry, wherein the third and fourth time delay amounts together are such as to compensate for a time delay between an output phase component of the RF signal and an output amplitude component of the output RF signal " or a

method of adjusting timing of inphase and quadrature (I and Q) components in an output Radio Frequency (RF) signal, comprising; "generating a third delay amount based on a comparison between the first and second delay amounts; generating a fourth delay amount based on a comparison between the first and second delay amounts; generating inphase and quadrature (I and Q) signals from input data; delaying the generated inphase signal (I) by the third delay amount to produce a delayed inphase (I) signal; delaying the generated quadrature (Q) signal by the fourth delay amount to produce a delayed quadrature (Q) signal; and supplying the delayed inphase (I) signal and the delayed quadrature (Q) signal to the RF circuitry, wherein the third and fourth time delay amounts together are such as to compensate for a time delay between an output inphase (I) component of the RF signal and an output quadrature (Q) component of the output RF signal " as disclosed in claims 15 and 26, respectively.

The prior art also fails to disclose an apparatus for adjusting timing of phase and amplitude components in an output Radio Frequency (RF) signal, comprising; "a second delay measuring unit for measuring a second delay amount that represents an amount by which an amplitude signal is delayed by RF circuitry that generates the output RF signal; a delay calculation unit that is operable to generate a third delay amount based on a comparison between the first and second delay amounts, and to generate a fourth delay amount based on a comparison between the first and second delay amounts; a delay unit connected to receive generated phase and amplitude signals and operable to delay the generated phase signal by the third delay amount to produce a delayed phase signal, and to delay the generated amplitude signal by the fourth delay amount to produce a delayed amplitude signal; and means for supplying the delayed phase signal, and the delayed amplitude signal to the RF circuitry, wherein the third and fourth time

delay amounts together are such as to compensate for a time delay between an output phase component of the RF signal and an output amplitude component of the output RF signal " or " a second delay measuring unit for measuring a second delay amount that represents an amount by which quadrature (Q) signal is delayed by RF circuitry that generates the output RF signal; a delay calculation unit that is operable to generate a third delay amount based on a comparison between the first and second delay amounts, and to generate a fourth delay amount based on a comparison between the first and second delay amounts; a delay unit connected to receive generated phase and amplitude signals and operable to delay the generated inphase (I) signal by the third delay amount to produce a delayed inphase (I) signal, and to delay the generated quadrature (Q) signal by the fourth delay amount to produce a delayed quadrature (Q) signal; and means for supplying the delayed inphase (I) signal, and the delayed quadrature (Q) signal to the RF circuitry, wherein the third and fourth time delay amounts together are such as to compensate for a time delay between an output inphase (I) component of the RF signal and an output quadrature (Q) component of the output RF signal " as disclosed in claims 27 and 28, respectively.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Drawings

2. This application has been filed with informal drawings, which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

CONCLUSION

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence B Williams whose telephone number is 571-272-3037. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence B. Williams

lbw
November 30, 2005

EMMANUEL BAYARD
PRIMARY EXAMINER